

Appl. No. 10/774,325  
Reply to Office Action of May 2, 2007

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**IN THE CLAIMS**

This listing of claims replaces all prior versions and listings of the claims in this application:

1. (Currently Amended) A method for producing protein-coated polystyrene microparticles consisting of the steps of:
  - (a) combining a suspension of uncoated polystyrene microparticles with a protein to form a combination, the protein being a partner of a bioaffinity binding pair and having a size from 10 nm to 300 nm as determined by photon correlation spectroscopy,
  - (b) coating the protein onto the microparticles by adsorption ~~under alkaline~~ conditions, wherein said coating step is conducted for a period of 1 to 10 days at a pH selected from a range of about 10.5 to about 12.5, and
  - (c) separating the non-adsorbed protein from the protein-coated microparticles.
2. (Previously Presented) The method of claim 1, wherein the protein is a polymerized protein.
3. (Previously Presented) The method of claim 1, wherein the protein is a streptavidin which has been polymerized by chemical treatment.
4. (Cancelled)
5. (Original) The method of claim 1, wherein the microparticles have a magnetizable core.
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)

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9. (Currently Amended) The method of claim 5 wherein the microparticles have a size of about 2.8  $\mu$ m and consist~~consist~~ essentially of about 88% polystyrene and about 12% magnetite.

10. (Cancelled)

11. (Previously Presented) The method of claim 1 wherein said coating step is conducted for a period of 4 to 7 days.

12. (Previously Presented) The method of claim 1 wherein the coating step is conducted at a pH between 11 and 12.

13. (Currently Amended) The A method of claim 1 producing protein-coated polystyrene microparticles, said method consisting of the steps of:

(a) combining a suspension of polystyrene microparticles with a protein to form a combination, the protein being a partner of a bioaffinity binding pair and having a size from 10 nm to 300 nm as determined by photon correlation spectroscopy,

(b) wherein said coating step coating the protein onto the polystyrene microparticles by adsorption, wherein said coating step is conducted with using a buffer having a salt content of about 0.3 to about 1.5 M and a pH selected from a range between 10.5 and 12.5, for a period of 1 to 10 days, and

(c) separating the non-adsorbed protein from the protein-coated microparticles.

14. (Cancelled)

15. (Currently Amended) A method for producing protein-coated polystyrene microparticles comprising the steps of:

(a) forming a suspension of uncoated polystyrene microparticles;

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- (b) adding a protein to said suspension to form a combination, wherein the protein is a partner of a bioaffinity binding pair and has a size from 10 nm to 300 nm as determined by photon correlation spectroscopy;
- (c) adsorbing the protein onto the polystyrene microparticle, wherein the pH of said combination is selected from the range of about 10.0 10.5 to about 12.5;
- (d) incubating the combination for 1 to 10 days in the absence of covalent coupling a crosslinking agent; and
- (e) separating the non-adsorbed protein from the protein-coated polystyrene microparticles.

16. (Currently Amended) The method of claim 15 wherein the length of time of said incubation step is about 4 to about 7 days.

17. (Previously Presented) The method of claim 15 wherein said coating step is conducted with a buffer having a salt content of about 0.3 to about 1.5 M.

18. (Currently Amended) The method of claim 16 wherein the microparticles have a size of about 2.8 um and consist~~s~~essentially of about 88% polystyrene and about 12% magnetite.

19. (Currently Amended) The method of claim 18 wherein said protein is polymerized streptavidin.

20. (Currently Amended) The method of claim 15 wherein said coating incubating step is conducted for a period of 4 to 7 days.